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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,223	01/20/2004	J Gary Eden	1032241	2183
757 7590 06/21/2011 BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, IL 60610				
EXAMINER				
SHAHRESTANI, NASIR				
ART UNIT		PAPER NUMBER		
3737				
MAIL DATE		DELIVERY MODE		
06/21/2011		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Notice of Allowability****Application No.**

10/762,223

**Applicant(s)**

EDEN ET AL.

**Examiner**

NASIR SHAHRESTANI

**Art Unit**

3737

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to communication received 2/15/2011.
2. ☒ The allowed claim(s) is/are 11-67.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

/Nasir Shahrestani/  
Examiner, Art Unit 3737

/BRIAN CASLER/  
Supervisory Patent Examiner, Art Unit 3737

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mindy Rittner on 4/8/2011.

The application has been amended as follows:

1-10. (Canceled)

11. (currently amended) A detection apparatus to detect weak magnetic fields comprising:

a first magneto-optical element that exhibits a response, in the form of Faraday rotation, to an applied magnetic field, a hysteresis characteristic of the Faraday rotation exhibiting transition regions between a plurality of stable states;

a light source to emit light that impinges on the first magneto-optical element;

a modulation element comprising a coil adjacent to the first magneto-optical element, the modulation element being a source of a time-varying magnetic field of sufficient strength to switch the first magneto-optical element between the stable states; and

a detector configured to detect a change in the light caused by a reaction of the first magneto-optical element to a weak magnetic field of an organ or bodily system, the change occurring when the first magneto-optical element is in one of the transition regions,

wherein the detection apparatus has a sensitivity sufficient to detect the weak magnetic field.

29. (currently amended) The detection apparatus of claim 11, wherein the ~~weak magnetic field is provided by an~~ organ or bodily system is of an animal.

30. (currently amended) The detection apparatus of claim 11, wherein the ~~weak magnetic field is provided by an~~ organ or bodily system is of a human.

40. (currently amended) A method of detecting weak magnetic fields comprising:  
providing a first magneto-optical element exhibiting a response, in the form of Faraday rotation, to an applied magnetic field, a hysteresis characteristic of the Faraday rotation exhibiting transition regions between stable states, wherein the first magneto-optical element is in the presence of a weak magnetic field;

impinging light from a light source on the first magneto-optical element;

applying a time-varying magnetic field from a modulation element to the first magneto-optical element;

switching the first magneto-optical element between the stable states; and

detecting a change in the light caused by a reaction of the first magneto-optical element to the weak magnetic field of an organ or bodily system, the change occurring when the first magneto-optical element is in one of the transition regions.

55. (currently amended) The detection method of claim 40, wherein the ~~an~~ organ or bodily system is of an animal ~~provides the weak magnetic field~~.

56. (currently amended) The detection method of claim 40, wherein the ~~an~~ organ or bodily system is of a human ~~provides the weak magnetic field~~.

### EXAMINER'S COMMENT

Claims 11-67 are allowable. The restriction requirement among species, as set forth in the Office action mailed on 10/29/2998, has been reconsidered in view of the allowability of claims to the elected invention pursuant to MPEP § 821.04(a). **The restriction requirement is hereby withdrawn as to any claim that requires all the limitations of an allowable claim.** Claims 12, 23, 29, 30, 21-33, 51 and 62 are no longer withdrawn from consideration because the claim(s) requires all the limitations of an allowable claim. In view of the above noted withdrawal of the restriction requirement, applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Once a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NASIR SHAHRESTANI whose telephone number is (571)270-1031. The examiner can normally be reached on Mondays and Tuesdays (8:30 am - 5:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nasir Shahrestani/  
Examiner, Art Unit 3737